WHAT IS CLAIMED IS:

1. A system for use with a processor of a locomotive or an off-highway vehicle (OHV), which processor controls an auxiliary device of the locomotive or OHV, said system comprising:

a driver for selectively energizing the auxiliary device of the locomotive or OHV;

a driver switch for selectively activating the driver;

a driver controller area network (CAN) microcontroller controlling the driver switch;

a panel switch for selectively supplying power to the driver CAN microcontroller and the driver switch;

a power distribution system connecting the driver CAN microcontroller and the driver switch to the panel switch; and

a panel CAN microcontroller responsive to the processor for controlling the panel switch.

2. The system of claim 1 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a feedback signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

3. The system of claim 2 further comprising an auxiliary sensor associated with the auxiliary device and providing a sensor signal to the driver CAN microcontroller and wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a feedback signal corresponding to the sensor signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

4. The system of claim 3 wherein the panel CAN microcontroller and the driver CAN microcontroller

communicate via modulated signals superimposed on the power distribution system.

5. The system of claim 4 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a modulated feedback signal superimposed on the power distribution system.

6. The system of claim 1 wherein the driver CAN microcontroller provides to the panel CAN microcontroller a feedback signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

7. The system of claim 1 further comprising an auxiliary sensor associated with the auxiliary device and providing a sensor signal to the driver CAN microcontroller and wherein the driver CAN microcontroller provides to the panel CAN microcontroller a feedback signal corresponding to the sensor signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

8. The system of claim 1 wherein the panel CAN microcontroller and the driver CAN microcontroller communicate via modulated signals superimposed on the power distribution system.

9. The system of claim 8 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a modulated feedback signal superimposed on the power distribution system.

10. A system for use with a locomotive or an off-highway vehicle (OHV) processor controlling an auxiliary device of the locomotive or OHV, said system comprising:

a driver for opening and closing a device for selectively energizing the auxiliary device of the locomotive or OHV;

a driver controller area network (CAN) microcontroller associated with the driver switch;

a panel switch for selectively supplying power to the driver;

a power distribution system connecting the driver to the panel switch; and

a panel CAN microcontroller associated with the processor for interfacing with the driver CAN microcontroller.

11. The system of claim 10 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a feedback signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

12. The system of claim 11 further comprising an auxiliary sensor associated with the auxiliary device and providing a sensor signal to the driver CAN microcontroller and wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a feedback signal corresponding to the sensor signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

13. The system of claim 12 wherein the panel CAN microcontroller and the driver CAN microcontroller communicate via modulated signals superimposed on the power distribution system.

14. The system of claim 13 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a modulated feedback signal superimposed on the power distribution system.

15. The system of claim 10 wherein the driver CAN microcontroller provides to the panel CAN microcontroller a feedback signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

16. The system of claim 10 further comprising an auxiliary sensor associated with the auxiliary device and providing a sensor signal to the driver CAN microcontroller and wherein the driver CAN microcontroller provides to the panel CAN microcontroller a feedback signal corresponding to the sensor signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

17. The system of claim 10 wherein the panel CAN microcontroller and the driver CAN microcontroller communicate via modulated signals superimposed on the power distribution system.

18. The system of claim 17 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a modulated feedback signal superimposed on the power distribution system.

19. A retrofit system for use with a processor of a locomotive or an off-highway vehicle (OHV), which processor controls an auxiliary device of the locomotive or OHV, wherein the locomotive or OHV includes:

a driver for selectively energizing the auxiliary device of the locomotive or OHV;

a panel switch for selectively supplying power to the driver; and

a power distribution system connecting the driver to the panel switch;

the retrofit system comprising:

a driver switch adapted to selectively activate the driver;

a driver controller area network (CAN) microcontroller for controlling the driver switch wherein the driver CAN microcontroller is adapted to receive power from and is connected to the power distribution system; and

a panel CAN microcontroller responsive to the processor for controlling the panel switch wherein the panel CAN microcontroller is adapted to receive power from and is connected to the power distribution system and wherein the driver CAN microcontroller and the panel CAN microcontroller communicate with each other via the power distribution system.

20. The system of claim 19 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a feedback signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

21. The system of claim 20 further comprising an auxiliary sensor associated with the auxiliary device and providing a sensor signal to the driver CAN microcontroller and wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a feedback signal corresponding to the sensor signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

22. The system of claim 21 wherein the panel CAN microcontroller and the driver CAN microcontroller communicate via modulated signals superimposed on the power distribution system.

23. The system of claim 22 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a modulated feedback signal superimposed on the power distribution system.

24. The system of claim 19 wherein the driver CAN microcontroller provides to the panel CAN microcontroller a feedback signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

25. The system of claim 19 further comprising an auxiliary sensor associated with the auxiliary device and providing a sensor signal to the driver CAN microcontroller and wherein the driver CAN microcontroller provides to the panel CAN microcontroller a feedback signal corresponding to the sensor signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

26. The system of claim 19 wherein the panel CAN microcontroller and the driver CAN microcontroller communicate via modulated signals superimposed on the power distribution system.

27. The system of claim 26 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a modulated feedback signal superimposed on the power distribution system.

28. A retrofit system for use with a locomotive or an off-highway vehicle (OHV) processor controlling an auxiliary device of the locomotive or OHV, wherein the locomotive or OHV includes:

a driver for selectively energizing the auxiliary device of the locomotive or OHV;

a panel switch for selectively supplying power to the driver; and

a power distribution system connecting the driver to the panel switch;

the retrofit system comprising:

a driver controller area network (CAN) microcontroller associated with the driver and coupled to the power distribution system; and

a panel CAN microcontroller associated with the processor and coupled to the power distribution system, wherein the driver CAN microcontroller and the panel CAN microcontroller communicate with each other via the power distribution system.

29. The system of claim 28 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a feedback signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

30. The system of claim 29 further comprising an auxiliary sensor associated with the auxiliary device and providing a sensor signal to the driver CAN microcontroller and wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a feedback signal corresponding to the sensor signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

31. The system of claim 30 wherein the panel CAN microcontroller and the driver CAN microcontroller communicate via modulated signals superimposed on the power distribution system.

32. The system of claim 31 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a modulated feedback signal superimposed on the power distribution system.

33. The system of claim 28 wherein the driver CAN microcontroller provides to the panel CAN microcontroller a feedback signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

34. The system of claim 28 further comprising an auxiliary sensor associated with the auxiliary device and providing a sensor signal to the driver CAN microcontroller and wherein the driver CAN microcontroller provides to the panel CAN microcontroller a feedback signal corresponding to the sensor signal and wherein the panel CAN microcontroller provides a signal corresponding to the feedback signal to the processor.

35. The system of claim 28 wherein the panel CAN microcontroller and the driver CAN microcontroller communicate via modulated signals superimposed on the power distribution system.

36. The system of claim 35 wherein the driver CAN microcontroller provides to the panel CAN microcontroller via the power distribution system a modulated feedback signal superimposed on the power distribution system.